

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:
NATHAN PROCH

Examiner : Christopher S. Kim
Art Unit : 3752

Applic.: 10/609,166

Filed: 06/27/2003

For: RECIRCULATING WATER
FOUNTAIN

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REMARKS

Applicant's undersigned attorney appreciates having had the opportunity to meet with Examiner Kim on 10 November 2004 to discuss the Office Action dated 08/24/2004.

By way of review, the present invention is directed to a recirculating water fountain incorporating an automatic shut off subsystem to prevent the pump from running dry. The shut off subsystem functions to sense the water level in the tub when the pump is running, (i.e., pump-on mode). If the "running" water level falls below a predetermined first height mark (typically attributable to evaporation), a controller shuts off the pump. When the pump shuts off (i.e., pump-off mode), water within the system, e.g., pipe, plenum, ramp, etc., drains back into the tub and raises the "non-running" water level above the first height mark. In accordance with a significant aspect of the invention, the controller prevents resumption of pump operation until the water level rises, e.g., by the user adding water, above a predetermined second height mark greater than the first height mark.

The Office Action rejects independent claims 1, 20, and 28 under 35 USC 103 as unpatentable over Ting or Nash in view of Bear. Ting and Nash both describe decorative waterfall displays in which a pump transports water from a lower reservoir to an upper reservoir from which it overflows along a visually open pathway or waterfall. As recognized by the Examiner in the Office Action, neither Ting nor Nash suggest a water level detector

1 and a controller responsive to the detector for preventing the pump from running dry.

2 Applicant discloses a detector including means (e.g., switch 50, Figure 20) for
3 signaling when the water level in the tub, or reservoir, falls below a first height mark. A
4 controller (e.g., CPU 70, Figure 20) responds to this low water signal to turn the pump off
5 ("pump-off" mode). With the pump turned off, the water in the system will fall back into the
6 reservoir which will cause the water level to exceed the first height mark. Nevertheless, in
7 accordance with the invention, this does not cause the pump to turn back on. Rather, the
8 pump-on mode is deferred until the detector (e.g., switch 52, Figure 20) signals that the water
9 level has risen above a second height mark, higher than the first height mark. Only then will
10 the controller (e.g., CPU 70) set the pump-on mode. The combination of applicant's detector
11 and controller is believed to be novel and not commercially available.

12 Inasmuch as neither Ting nor Nash describes an automatic pump shut off function, the
13 Examiner has cited Bear which describes a low water level sensor for a bottled water
14 pressurization system. Initially, it is respectfully observed that none of the cited references
15 contains any suggestion which would motivate a person of ordinary skill to modify Ting or
16 Nash to incorporate the Bear teachings.

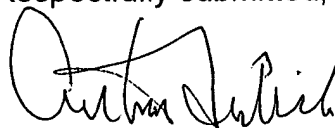
17 Regardless, however, Bear only teaches the concept of shutting off a pump when a
18 low water level is recognized. Bear does not address the problem confronted by applicant in
19 which water in the system flows back into the reservoir to potentially exceed the low water
20 mark. If Ting and/or Nash were modified in view of Bear, the resulting combination would
21 cycle excessively because the pump would shut off when the low water condition was sensed
22 but would then promptly turn back on when the water in the system drained back into the
23 reservoir.

24 Clearly, Bear fails to suggest Applicant's system for detecting the water level at two
25 different height marks for preventing the pump from running dry and for avoiding excessive
26 pump cycling.

27 Applicant's independent claims are being amended to clarify applicant's use of a
28 detector for signaling when the water level is below a first height and when the water level is

1 above a second height and a controller responsive to the detector for turning the pump off at
2 the low water height and preventing it from turning back on until the water reaches the high
3 water height. It is accordingly urged that independent claims 1, 20, and 28 patentably
4 distinguish the invention over the cited art and favorable reconsideration is courteously
5 requested.

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7 Respectfully submitted,

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24 **DEPOSIT ACCOUNT AUTHORIZATION:**

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